

## CLAIMS

5 We claim:

1. An oligonucleotide synthesizer comprising a reaction chamber and a lid, wherein in an open position, said lid provides a substantially enclosed ventilated workspace.

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2. A method of protecting an operator of an oligonucleotide synthesizer comprising channeling ambient air away from an operator toward an interior space of said synthesizer.

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3. An apparatus comprising, in combination, an oligonucleotide synthesizer and a venting hood.

4. An apparatus configured for production of oligonucleotides, wherein said apparatus comprises a venting component configured to draw air away from a reaction chamber of said apparatus.

5. A system comprising a plurality of oligonucleotide synthesizers of Claim 1.

6. The system of Claim 5, wherein said system comprises 100 or more of said synthesizers.

7. A system comprising a plurality of apparatuses of Claim 3.

8. The system of Claim 7, wherein said system comprises 100 or more of said apparatuses.

9. A system comprising a plurality of apparatuses of Claim 4.

5 10. The system of Claim 9, wherein said system comprises 100 or more said apparatuses.

11. A polymer synthesizer comprising a ventilated workspace.

10 12. The polymer synthesizer of Claim 11, wherein said polymer synthesizer is a nucleic acid synthesizer.

15 13. The polymer synthesizer of Claim 11, wherein said synthesizer comprises a top enclosure, said top enclosure comprising a top plate with a ventilation opening, wherein said top enclosure is configured for attachment to a top cover of a synthesizer to form a primarily enclosed space over said top cover.

14. The polymer synthesizer of Claim 11, wherein said synthesizer comprises a base, said base comprising a primarily enclosed space and a ventilation opening.

20 15. A top enclosure comprising a top plate with a ventilation opening, wherein said top enclosure is configured for attachment to a top cover of a synthesizer to form a primarily enclosed space over said top cover.

25 16. The top enclosure of Claim 15, wherein said top plate is configured for attachment to a ventilation tube such that air in said primarily enclosed space may be drawn through said ventilation opening into said ventilation tube.

30 17. The top enclosure of Claim 15, wherein said top plate further comprises an outer window, and wherein said ventilation opening is formed in said outer window.

18. The top enclosure of Claim 15, wherein said top enclosure further comprises at least four sides.

19. The top enclosure of Claim 15, wherein said top cover further comprises a ventilation slot.

20. A system comprising;

a) a ventilation tube, and

b) a lid enclosure comprising; a) a top cover with a ventilation slot,

and b) a top enclosure comprising a top plate with a ventilation opening, wherein said top enclosure is attached to said top cover to form a primarily enclosed space over said top cover.

21. The system of Claim 20, further comprising a vacuum source.

22. The system of Claim 20, wherein said vacuum source comprises a centralized vacuum system.

23. A kit comprising;

a) a top enclosure comprising a top plate with a ventilation opening, wherein said top enclosure is configured for attachment to a top cover of a synthesizer to form a primarily enclosed space over said top cover, and

b) a printed material component, wherein said printed material component comprises written instruction for installing said top enclosure onto said top cover.